

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/051248

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H03M1/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H03M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, IBM-TDB, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 474 025 A (MOTOROLA INC) 11 March 1992 (1992-03-11) abstract; figure 2 page 2, line 10 - line 11 page 2, line 23 - line 26 page 2, line 34 - line 36 page 2, line 51 - line 55 page 3, line 2 - line 7 page 7, line 51 - page 8, line 31 page 8, line 35 - page 9, line 36 page 10, line 50 - line 58 page 14, line 25 - line 32 ----- -/--	2, 8, 26

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

3 November 2004

Date of mailing of the international search report

12/11/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Oliveira, J.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 654 632 A (KAWAI JOJI ET AL) 31 March 1987 (1987-03-31) abstract; figures 3,4 column 1, line 58 - line 68 column 2, line 17 - line 27 column 2, line 50 - line 63 column 3, line 12 - line 25 column 3, line 45 - line 50 column 4, line 8 - line 16	2,8,26
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 05, 30 May 1997 (1997-05-30) & JP 9 027750 A (MATSUSHITA ELECTRIC IND CO LTD), 28 January 1997 (1997-01-28) abstract	2,26
A	EP 0 502 428 A (NIPPON ELECTRIC CO) 9 September 1992 (1992-09-09) abstract; figure 3	2,26

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1, 3-7, 17-25
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 1,3-7,17-25

1) The characters "...! aof "...!" in page 14 line 10 of claim 1 have been interpreted as "...!an expiry of"...!" according to the description page 2 lines 28-29.

2) The word "detection" in the claims and the description and its variations have been interpreted as "sampling" from what can be understood from the description and the figures.

3) It is not understood what is the object of protection sought in the characterising part of independent claim 1 even when taking the description into account.

a) It is not clear at all what is meant in claim 1 by "...! expiry of the multichannel analog/digital conversion "...!", i.e. this could represent the conversion time or the end of the conversion time of a sample in one of the channels or even something else.

b) It is also not clear what is the meaning of "...!an expiry of the multichannel analog/digital conversion "...! is valid "...!", i.e. in which way can an "expiry" be "valid".

c) Finally the "...! entire channel including the detection of the channel sample "...!" is also not clear, i.e. what are the elements defining the "...! entire channel "...!".

4) It is also not possible to perform a meaningful search of the corresponding arrangement defined in independent claim 25 for the reasons indicated in 3) and since dependent claims 17-24 do not contribute to clarify claim 1 they could also not be the subject of the search.

5) The object of claim 3 is also not clear since "...! the calculations "...! for the expiry of the multichannel analog/digital conversion "...!" have not been defined in claim 3 nor in claim 2.

6) The objection stated in 3)a) also applies for the wording "...! expiry of the multichannel analog/digital conversion"...!" in claim 3.

7) Claims 4-7 being dependent on 3 it is also not possible to derive a meaningful search for these claims.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0474025	A	11-03-1992	US 5081454 A	14-01-1992
			DE 69130659 D1	04-02-1999
			DE 69130659 T2	22-07-1999
			EP 0474025 A2	11-03-1992
			JP 3188730 B2	16-07-2001
			JP 8087382 A	02-04-1996
			KR 222351 B1	01-10-1999
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			JP 1543918 C	15-02-1990
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			EP 0502428 A2	09-09-1992